

WHAT IS CLAIMED IS:

1. A mercury vapor discharge lamp comprising a light-transmissive envelope having an inner surface, means for providing a discharge, a discharge-sustaining fill gas sealed inside said envelope, a phosphor layer inside said envelope and adjacent the inner surface of said envelope, and a barrier layer between the envelope and the phosphor layer, said phosphor layer comprising 10-50 weight percent halophosphors and 50-90 weight percent rare earth phosphors, said weight percents being based on the total phosphor weight of said phosphor layer, said lamp having an Ra value of 70-81.
2. The lamp of claim 1, wherein said phosphor layer comprises 10-50 weight percent halophosphors and 50-90 weight percent rare earth phosphors, said weight percents being based on the total weight of said phosphor layer.
3. The lamp of claim 1, said phosphor layer comprising 20-40 weight percent halophosphors and 60-80 weight percent rare earth phosphors, said weight percents being based on the total phosphor weight of said phosphor layer.
4. The lamp of claim 2, said lamp having an Ra value of 70-79.
5. The lamp of claim 2, said lamp having an Ra value of 73-79.
6. The lamp of claim 2, said lamp having an Ra value of 75-79.
7. The lamp of claim 2, said lamp having an Ra value of 78-79.
8. The lamp of claim 2, the rare earth phosphors in said phosphor layer being a rare earth triphosphor blend, the weight percents of said rare earth phosphors, based on the total weight of rare earth phosphors in said phosphor layer, being 33-60 weight percent red-emitting, 25-40 weight percent green-emitting, and 5-30 weight percent blue-emitting.
9. The lamp of claim 2, said phosphor layer and said barrier layer being such

that, when provided in a standard 4 foot F32T8 fluorescent lamp, they yield 2600-2900 lumens at 100 hrs.

10. The lamp of claim 2, said phosphor layer having a coating weight of 1-2 mg/cm<sup>2</sup>.

11. The lamp of claim 2, said halophosphors being calcium halophosphate activated with manganese and antimony and wherein said rare earth phosphors comprises YEO and SECA.

12. The lamp of claim 2, said lamp having no more than one phosphor layer.

13. The lamp of claim 2, said phosphor layer comprising 25-35 weight percent halophosphors and 65-75 weight percent rare earth phosphors, said weight percents being based on the total phosphor weight of said phosphor layer.

14. The lamp of claim 2, said phosphor layer and said barrier layer being such that, when provided in a standard 4 foot F32T8 fluorescent lamp, they yield about 2800 lumens at 100 hrs.

15. The lamp of claim 2, said phosphor layer having a coating weight of 1.2-1.6 mg/cm<sup>2</sup>.